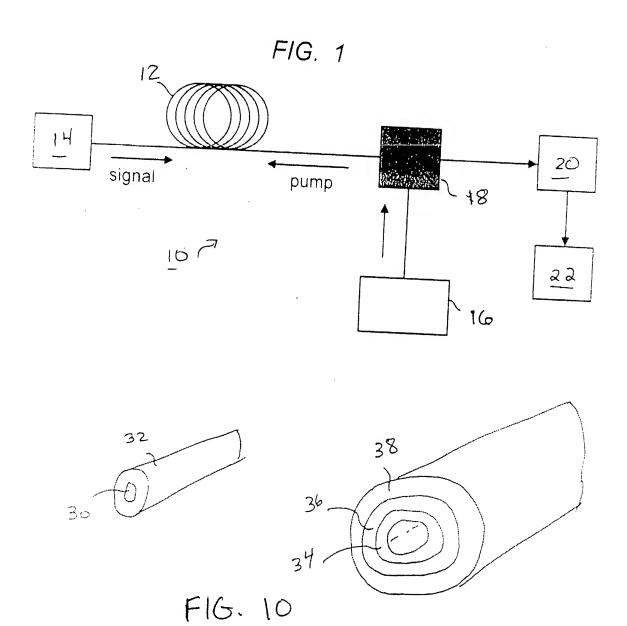
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1.65 D > ~1 ps/nm/km to suppress non-linearity across entire range of pumps and signals 1.6 FIG. 2: Dispersion Curves for S-band Raman Pumping 1.55 TrueWave-REACH SCL Band Wavelength (microns) Fibers **DWDM signals** rueWave-RS 1.45 -C) - SCL fiber, 55 um2 @1550nm, Fig. 7 -△- D) - SCL fiber, 55 um2 @1550nm, Fig. 8 Raman pump(s) for lower S-band E-A) - TrueWave REACH -B) - TrueWave RS 1.35  $\ddot{\gamma}$ 0 9 2  $\infty$ 4 Nominal Dispersion (ps/nm/km)

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FIG. 3: Range of water peaks, 0.341 1310nm loss background 1420 1400 Wavelength (nm) 1380 1360 -- -0.400 water peak -- ?-- 0.450 water peak -\*-0.500 water peak ◆ 0.300 water peak ---0.350 water peak 1340 1320 1300 0.25 0.30 0.55 0.50

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1650 Case a) S-band,1st order, fewer channels Case b) Lower S-band, 1st order, more FIG. 4: Spectral Loss Curve with Raman Pumps and Signals 1600 channels 1000 1550 Case c) 2nd order, extended-L band 1500 1450 1395nm 1400 1375nm < 20nm spacing 1350 1300 0.150 + Attenuation (dB/km)
0.350
0.350 0.500 0.200 0.5500.450 0.250

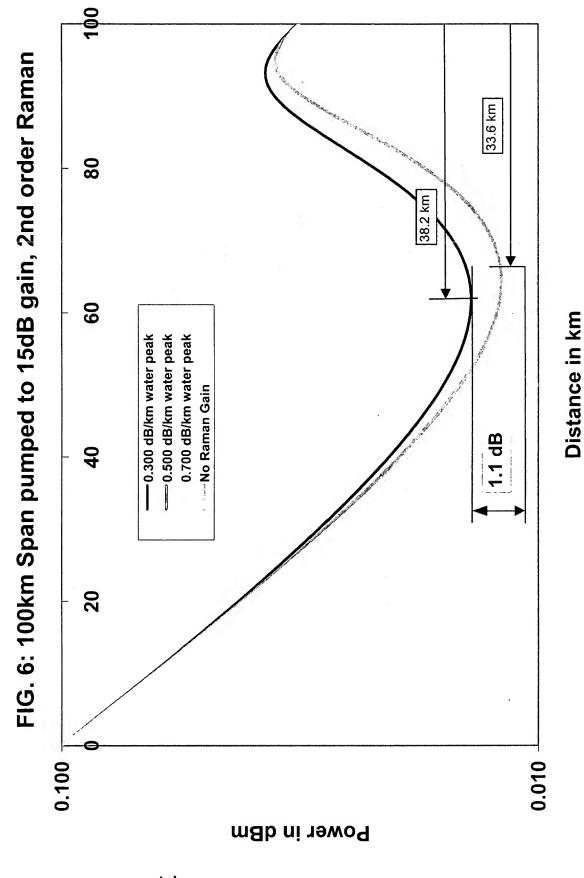
Wavelength

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23.0 km 90 80 FIG. 5: 100km Span pumped to Transparency 20 9 2.3 dB 20 40 -0.300 dB/km water peak =0.500 dB/km water peak 30 No Raman gain 20 10 0.100 0.010 0.001 Fiber Loss in dB/km

Distance in km

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8 25 FIG. 7: Profile Representing a first SCL Band Fiber S 0.000 -0.002 0.004 -0.001 0.005 0.003 0.001 0.002 -0.003 Relative Delta

Radius (micrometer)

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25 FIG. 8: Profile Representing a second SCL Band Fiber 2 -0.001 0.004 0.005 0.003 0.002 0.001 -0.002 0.000 -0.003 Relative Delta

Radius (micrometer)

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<u>ဗ</u> 25 FIG. 9: Profile Representing a third SCL Band Fiber 2 -0.001 <sup>Q</sup> 0.004 0.002 0.005 0.003 0.001 0.000 -0.002 -0.003 Relative Delta

Radius (micrometer)

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